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The European GreenLight Programme Efficient Lighting Project Implementation Catalogue 2011

Paolo Bertoldi
Marion Elle

2013

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Contents

The European GreenLight Programme

GreenLight is a voluntary programme where private and public organisations commit towards the European Commission to upgrading their existing lighting, and to designing new installations, using energy efficient lighting systems when the energy savings justify the investment and lighting quality is maintained or improved.

This is the fourth catalogue which collects the successful examples of efficient lighting project in the Member State of the European Union and other countries. The time period covered in this report is the year of 2011.

Lighting electricity use in European non-residential sector represents more than 160 TWh/year. This has a substantial impact on the environment, accounting for up 40% of electricity used in non-residential buildings. Major energy savings can be achieved. Examples from the field have shown that between 30% and 50% of electricity used for lighting could be saved investing in energy-efficient lighting system. In most cases, such investments are not only economically profitable but they also maintain or improve lighting quality. To pull the demand for efficient technologies, the European Commission (EC) launched in February 2000 the European GreenLight Programme. It is an on-going voluntary programme whereby private and public organisations (referred to as Partners) commit to adopting energy-efficient lighting measures.

In return for their commitment, not only do these Partners benefit from the savings, but they also receive public recognition for their effort in protecting the environment. GreenLight is promoted by the European Commission and a network of national energy agencies or similar bodies.

By the end of 2011, over 685 Partners from across the European Union, plus Norway and Switzerland, participated in GreenLight. For 2011, 32 new Partners could be welcome into the programme.

In 2006 a special emphasis was started to enlarge the GreenLight programme to the new Member States of the European Union. As a result the network of Partners further expanded.

The 2000-2008 Report showed a total annual saving of all Partners of 241 GWh/a for the reported period of eight years. In 2009, an additional saving amounted to about 16 GWh/ year and Partners joined until the end of 2010 saved an amount of very respectable 40.7 GWh/a. In 2011, the reported annual savings amount to 10.6 GWh/a.

GreenLight Programme 2012 Awards Winners

Savings were achieved primarily through converting to increased energy efficient lamps. Within the year 2010 the technology of light-emitting diodes (LED) has the highest share of almost 40 % of all reported changes and was both applied in indoor and outdoor projects. This development is specifically noteworthy since in the previous reporting period of 2009 not a single conversion to LED was reported.

Only 6,5 % of the projects in 2011 were outdoor projects. More than 80 % of the indoor projects were implemented in the category “Retail and Supermarkets” and more than half of the total of savings was achieved here. **In total, all 685 GreenLight Partners reach the savings of more than 307 GWh of electricity saved annually through efficient lighting by the end of 2011**.

The 32 new Partners joined GreenLight in 2011 constitute the smallest number of new partners since the initial year of 2000 and are a continuation of the trend of decreasing new entries since the peak of registrations in 2007. The programme of GL has been running for more than a decade and a certain saturation of interested partners has to be seen as a natural life-cycle common for voluntary awareness campaign activities. This trend could be overcome with additional promotional activities and additional budgets to reach new target groups.

Nevertheless, the cases presented in this catalogue demonstrated that respectable savings can be achieved. The commitment of those Partners listed to increase efficiency in lighting and to stand as good models for sustainability put into practice remains high.

The full details of the GreenLight Programme, including obligations and rewards, are available on the programme web site at www.eu-greenlight.org.

Street Lighting

Gemeente Best

Country
Netherlands

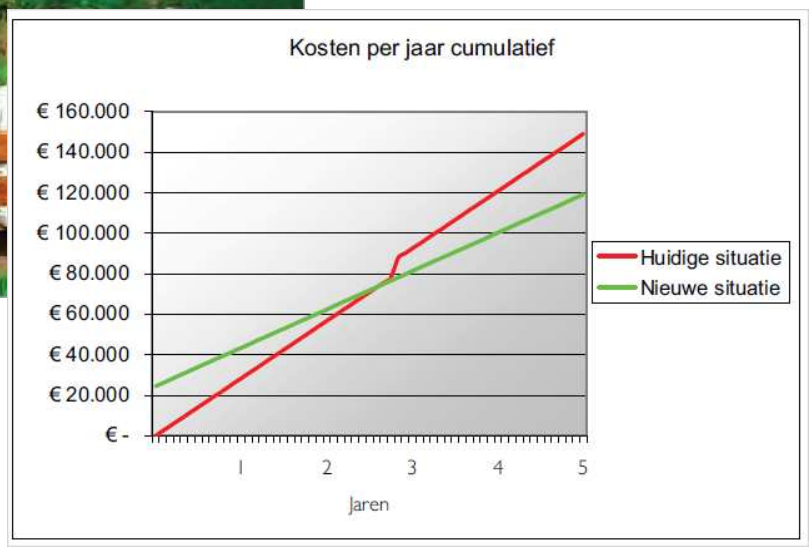
Category
Street Lighting

Typology
Outdoor

Year
2011

Total savings
51 MWh/a

Effective Savings
33 %

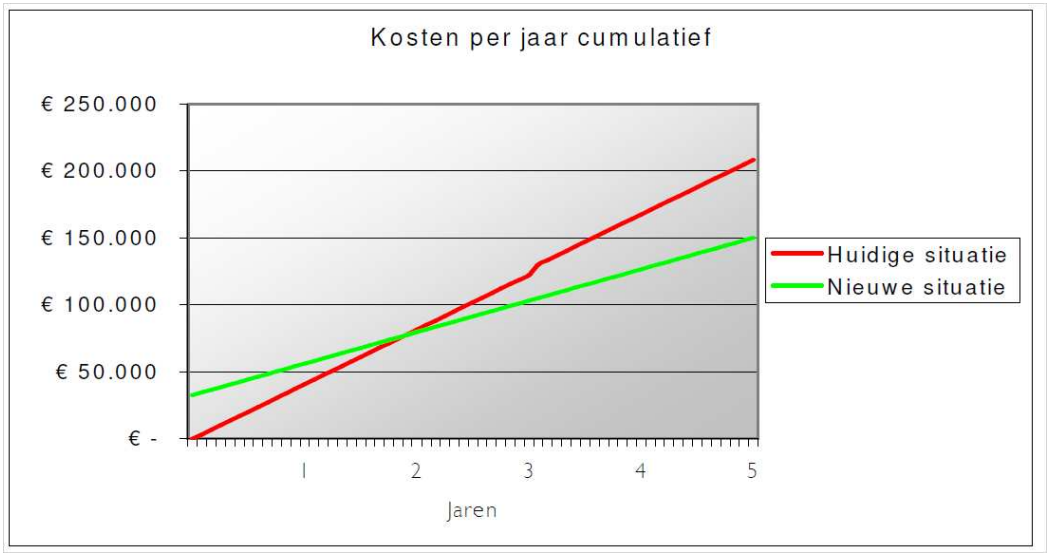


The Gemeente Best is a municipality and a village in the southern Netherlands, which became GreenLight Partner in 2011 with the intervention of upgrading public street lighting using LED. Including subsidies the return of investment (ROI) was calculated to be 2,23 years.

Gemeente Roosendaal

Country	*Category*	*Typology*
Netherlands	**Street Lighting**	**Outdoor**

Year	*Total savings*	*Effective Savings*
2011	**117 MWh/a**	**42 %**

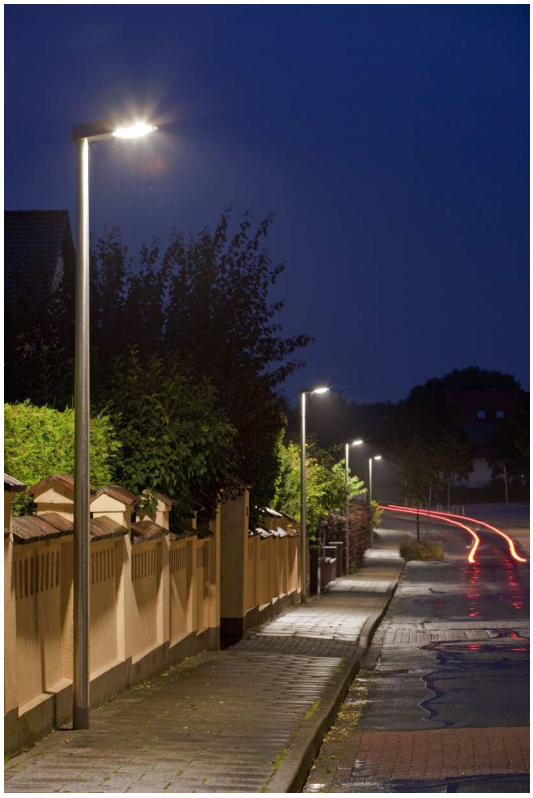


Roosendaal is both a city and a municipality in the southern Netherlands, which upgraded street lighting by installing new LED systems. Including subsidies the return of investment (ROI) was calculated to be 1,64 years.

Stadt Langen

Country	*Category*	*Typology*
Germany	**Street Lighting**	**Outdoor**

Year	*Total savings*	*Effective Savings*
2011	**482 MWh/a**	**60 %**



The City of Langen is situated close to Bremerhaven and coast-line to the North Sea.

Effective energy savings in kWh per year: 482,192
Effective energy savings in per year: 60 %
Investment: 1,7 Mio. €
Annual savings in running costs: 170.000,00 €

The intervention was a step-by-step upgrade of all street light-ing, exchanging 2551 conventional fluorescent luminaries with LED. The beginning of the project was in December 2010 and it has been completed in August 2011. The return of invest-ment (ROI) has been calculated to be below 10 years. If rising energy prices are taken as a basis for the calculation the ROI will be reached even earlier. The City of Langen has been the first community in German switching its entire street lighting to LED.

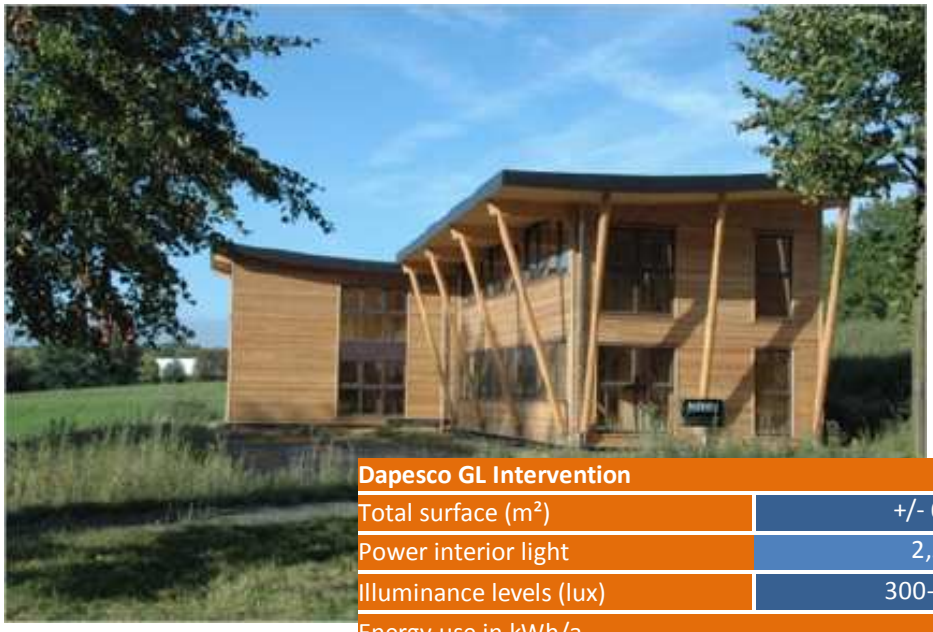
GREENLIGHT AWARD WINNER 2012

Service & Office Space

Dapesco S.A.

Country	*Category*	*Typology*
Belgium	**Service & Office**	**Indoor**
Year	*Total savings*	*Effective Savings*
2011	**2,1 MWh/a**	**43 %**

DAPESCO
OPTIMISING ENERGY



Dapesco GL Intervention	
Total surface (m²)	+/- 660
Power interior light	2,5
Illuminance levels (lux)	300-500
Energy use in kWh/a	
without automatic light control	5.040,00
with automatic light control	2.890,00
Savings in kWh(/a	2.150,00
in %	43

Dapesco S.A. is a Belgian engineering company offering services in energy data collection and auditing, The company is situated in an low energy building in the Fleming Science Park at Louvain-la-Neuve. The interior lighting was assured by T5 High Efficiency fluorescence lamps combined with light control systems (daylight and presence detetcor). The building is newly build in 2009-2010 and was nominated for national awards as one off the 3 laureates in the category Eco-

GREENLIGHT

bft Petrol Station Vornmoor GmbH

Country	Category	Typology
Germany	Service & Office	Indoor
Year	**Total savings**	**Effective Savings**
2011	41 MWh/a	69 %

Bft is a privately run petrol station near Vechta, Lower Saxony. The operator had initiated a retrofitting of all interior and outdoor lightning exchanging of halogen spots and (compact) fluorescent lamps by LED.

Effective energy savings in kWh per year: 40,723
Effective energy savings in per year: 69 %
Investment: 26,566 €

GREENLIGHT AWARD WINNER 2012

ER21 Ingenierie

Country	Category	Typology
France	Service & Office	Indoor
Year	**Total savings**	**Effective Savings**
2011	5 MWh/a	53 %

ER21 is an engineering company offering a wide range of services for pharmaceutics and health industry, research as well as industrial transformation processes and technical installation in specific environments. For GreenLight they registered with renovation of office near Grenoble changing to a more efficient lighting including dimming and time scheduling. Important aspect was increasing light quality and permanent lighting adjustment (dimming) which increases comfort at work especially on computers.

Migration Solutions

Country
United Kingdom

Category
Service & Office

Typology
Indoor

Year
2011

Total savings
733 MWh/a

Effective Savings
95 %

Type of Building: Data Centre
Effective energy savings in kWh per year: 732,710
Effective energy savings in per year: 95 %
Upgraded surface in m2: 6,600
Pay-back time: 3.25 years
Annual savings in running costs: 71,000 €

Migration Solutions, a company based at Whyteleafe, a small town in South East England, is one of Europe's leading independent computer room and data centre specialist. They registered with a lighting renovation of a data centre facility. The facility was previously lit 24 hours per day 7 days per week. All lighting, both internal and external, was changed from a mixture of traditional fluorescent lighting (internal) and halogen lighting (external) to LED.

GREENLIGHT AWARD WINNER 2012

Telenet Group Holding

Country	*Category*	*Typology*
Belgium	**Service & Office**	**Indoor**
Year	*Total savings*	*Effective Savings*
2011	**1 000 MWh/a**	**more than 64 %**

Telenet is the largest provider of cable services in Belgium. Telenet focuses on the provision of broadband, fixed and mobile telephony services and cable television, to residential customers in Flanders and Brussels. Professional communications services are also provided to corporate customers in Belgium and Luxembourg under the Telenet Solutions brand name. They registered as a GreenLight Partner in 2011 with the intervention in two office buildings.

Office 1
Type of Building: Office
Effective energy savings in kWh per year: 142,350
Effective energy savings in per year: 92 %
Annual savings in running costs: 14,235 €
Exchange of conventional fluorescent luminaries with LED.

Office 2
Type of Building: Office
Effective energy savings in kWh per year: 858,000
Effective energy savings in per year: 61 %
Annual savings in running costs: 85,800 €
Exchange of conventional fluorescent luminaries with LED.

GREENLIGHT AWARD WINNER 2012

Public Buildings

Derioko Udala

Country
Spain

Category
Public Building

Typology
Indoor

Year
2011

Total savings
24 MWh/a

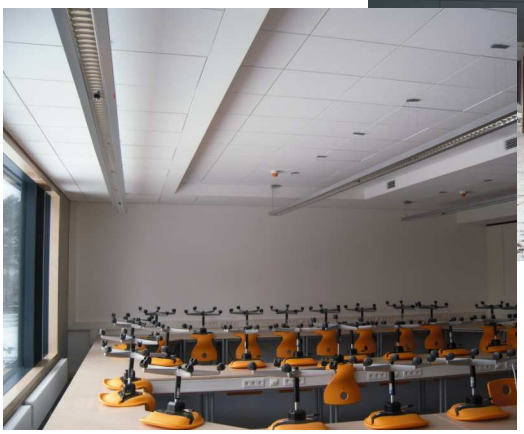
Effective Savings
36 %

Derio is a town and municipality located in the province of Biscay, in the autonomous community of Basque Country, northern Spain. The upgraded the lighting of the community and cultural centre “Kultur Extea” registered as a contribution to GreenLight.

	Traditional Solution	Energy Efficient Solution
Calculation of energy consumption		
Type and number of lamps	3x36 W	3x24 W (E5)
Type of ballast	Magnetic	Electronic
Power capacity of system	118	72
Number of luminaries	114	120
Consumption in kW	13,45 kW	8,64 kW
Realized savings		4,81 kW
in %		35,77%
Calculation example		
Lighting hours per day	15	15
Lighting day per year	330	330
Lighting hours per year	4950	4950
Energy consumption per year	66.587,40 kW	42.768,00 kW
Energy savings per year		23.819,40 kW
Estimated costs kWh	0,12 €	0,12 €
Total annual cost	7.990,49 €	5.132,16 €
Cost savings per year		2.858,33 €

Main Taunus Kreis

Country	*Category*	*Typology*
Germany	**Public Building**	**Indoor**
Year	*Total savings*	*Effective Savings*
2011	**34 MWh/a**	**60 %**



The Community of the Main-Taunus-Kreis is situated in Hesse just west of Frankfurt. The registered an intervention in a school building, the Sophie-Scholl Schule in Flörsheim. Instead of a luminaries with conventional ballast the owner of the school decided to use only high-efficient luminaires with electronic ballast and HR-Silver-reflectors. Additionally the use of light controls regulating and shutting down the artificial light output in accordance with the level of natural light were installed. Energy cost savings of 5,792 € and a reduction of CO_2 emission of 17 tons per year were reached.

Mairie de Saint Peray

Country	Category	Typology
France	Public Building	Indoor
Year	**Total savings**	**Effective Savings**
2011	4 MWh/a	40 %

Saint-Peray is located in the Ardèche region close to Valence. The municipality has implemented a new enlargement of a the library to include a new multi-media centre with high environmental standards. The aim was to also pay attention to the reduction of energy consumption in lighting. For the internal lighting T5 tubes with a capacity of 14 W were chosen. The exterior was equipped with LED spots for illumination at night.

GREENLIGHT

Universidad Nacional de Educación a Distancia (UNED)

Country
Spain

Category
Public Building

Typology
Indoor

Year
2011

Total savings
44 MWh/a

Effective Savings
47 %

The UNED is the Spanish Open University, which registered an intervention in one of their facilities, the EDIFICIO CTU (LAS ROZAS) in Madrid.

	Traditional Solution	Energy Efficient Solution
Calculation of energy consumption		
Type and number of lamps	2x58 W	2x35 W
Type of ballast	Magnetic	Electronic with ELS
Power capacity of system	129	72
Number of luminaries	180	171
Consumption in kW	23,22 kW	12,31 kW
Realized savings		10,91 kW
in %		46,98%
Calculation example		
Lighting hours per day	15	15
Lighting day per year	266	266
Lighting hours per year	3990	3990
Energy consumption per year	92.647,80 kW	49.124,88 kW
Energy savings per year		43.522,92 kW
Estimated costs kWh	0,12 €	0,12 €
Total annual cost	9.264,78 €	4.912,49 €
Cost savings per year		4.352,29 €

Ville de Lille

Country	*Category*	*Typology*
France	**Public Building**	**Indoor**
Year	*Total savings*	*Effective Savings*
2011	**79 MWh/a**	**40 %**

The City of Lille (Mairie de Lille) has been a GreenLight Partner for some years and has been committed to upgrading school lighting for many years, reaching now the level of having modernized the lighting in 21 schools.

Total schools
Effective energy savings in kWh per year: 186,200
Effective energy savings in per year: 40 % average

Example library
Type of Building: Library building
Effective energy savings in kWh per year: 21,825
Effective energy savings in per year: 68 %
Upgraded surface in m2: 921
Annual savings in running costs: 2,183 €
All the lighting fixtures are equipped with ELS sensors to use daylight. Power installed reduced by 54 %, energy saving 68 % thanks to the ELS sensor using daylight, maintenance reduced by 40 % and light level improved by 11 %.

GREENLIGHT AWARD WINNER 2012

Vrije Middenschool Zonhoven

Country	Category	Typology
Belgium	Public Building	Indoor
Year	**Total savings**	**Effective Savings**
2011	95 MWh/a	58 %

Type of Building: School
Upgraded surface in m2: 3,977
Annual savings in running costs: 12379,5 €

The Vrije Middenschool is a secondary school situated in Zonhoven, a municipality located in the Belgian province of Limburg near Hasselt. The intervention included lighting level in classroom and offices raised to 750 lux (instead of 300 lux), improvement of lighting comfort, better lighting on whiteboards as well as the integration of emergency lighting in lighting fittings. Awareness raising activities were also part of the project, with the naming each week another 'lighting master', a pupil responsible for lighting being switched off.

GREENLIGHT AWARD WINNER 2012

Retail & Supermarkets

Auchan Romania

Country
Romania

Category
Retail & Supermarkets

Typology
Indoor

Year
2011

Total savings
3,45 MWh/a

Effective Savings
average **44 %**

Project Name	Consumption before kWh/a	Consumption after kWh/a	Effective Energy Savings kWh/a	Effective Energy Savings in %	Savings in running costs €/a	Lamps before	Lamps after
Auchan Craiova	1.872,00	936,00	936,00	50,00%	935,50 €	26mm T8	16mm T5
Auchan Constanta	2.043,00	1.147,00	896,00	43,86%	895,56 €	26mm T8	16mm T5
Auchan Timisoara	1.159,00	654,00	505,00	43,57%	504,56 €	26mm T8	16mm T5
Titan Romania	2.734,00	1.615,00	1.119,00	40,93%	1.118,59 €	26mm T8	16mm T5
total	**7.808,00**	**4.352,00**	**3.456,00**	**44,26%**	**3.454,22 €**		

Auchan opened their first supermarket in Romania in 2006. With the beginning of 2010, the chain decided to address improving the energy efficiency of the lighting within the sales areas. For GreenLight, the intervention within stores at four sites was registered. Mostly 26-mm fluorescent tube (T8) were exchanged with the higher efficient 16-mm fluorescent tube (T5). On the whole daylight optimised, localised artificial lighting was implemented.

COOP Consumatori Nordest S.C.

Country
Italy

Category
Retail & Supermarkets

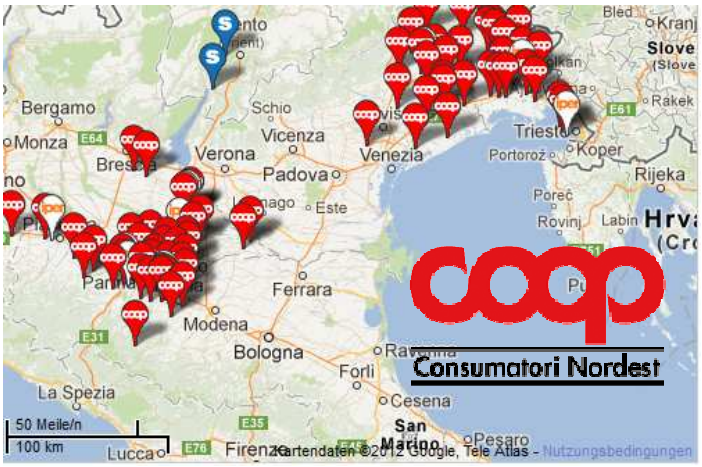
Typology
Indoor

Year
2011

Total savings
283 MWh/a

Effective Savings
average **16 %**

Coop Consumatori Nordest registered lighting improvements within seven supermarkets. The key changes were from T8 to T5 fluorescent tubes with the installation of a minor percentage of LED .



Project Name | Supermarket	Consumption before kWh/a	Consumption after kWh/a	Effective Energy Savings kWh/a	Effective Energy Savings in %	Savings in running costs €/a	Lamps before	Lamps after
Montecchio Nell'Emilia Sales Area	166.383,00	127.865,00	38.518,00	23,15%	38.517,77 €	26mm T8	16mm T5 / LED
Trento Sud Sales Area	501.687,00	390.500,00	111.187,00	22,16%	111.186,78 €	26mm T8	16mm T5 / LED
Trieste Centro Sales Area	116.911,00	95.953,00	20.958,00	17,93%	20.957,82 €	26mm T8	16mm T5 / LED
Sermide Sales Area	211.549,00	177.194,00	34.355,00	16,24%	34.354,84 €	26mm T8	16mm T5 / LED
Collecchio Sales Area	173.531,00	154.575,00	18.956,00	10,92%	18.955,89 €	26mm T8	16mm T5 / LED
Montedoro Freetime Sales Area	433.844,00	387.015,00	46.829,00	10,79%	46.828,89 €	26mm T8	16mm T5 / LED
Bagnolo in Piano Sales Area	114.524,00	102.294,00	12.230,00	10,68%	12.229,89 €	26mm T8	16mm T5 / LED
total	**1.718.429,00**	**1.435.396,00**	**283.033,00**	**16,47%**	**283.031,88 €**		

COOP Estense S.C.

Country
Italy

Category
Retail & Supermarkets

Typology
Indoor

Year
2011

Total savings
311 MWh/a

Effective Savings
average **16 %**

Coop Estense registered lighting improvements within 10 supermarkets, amongst them the prestigious project Maranello, a new build supermarket according to high environmental and energetic standards.

The Supermarket of Maranello was build according to high energetic standards in 2010.

Project Name | Supermarket	Consumption before kWh/a	Consumption after kWh/a	Effective Energy Savings kWh/a	Effective Energy Savings in %	Savings in running costs €/a	Lamps before	Lamps after
Carpi Borgogioioso Sales Area	88.970,00	45.570,00	43.400,00	48,78%	43.399,51 €	16mm T5	16mm T5 / LED
Maranello Sales Area	123.161,00	79.396,00	43.765,00	35,53%	43.764,64 €	16mm T5	16mm T5 / LED
Spilamberto	147.543,00	115.539,00	32.004,00	21,69%	32.003,78 €	16mm T5	16mm T5 / LED
Grandemilia Sales Area	141.875,00	112.988,00	28.887,00	20,36%	28.886,80 €	16mm T5	16mm T5 / LED
Supermarket Bari	63.273,00	52.579,00	10.694,00	16,90%	10.693,83 €	16mm T5	16mm T5 / LED
Ferrara il Castello Sales Area	78.495,00	66.858,00	11.637,00	14,83%	11.636,85 €	16mm T5	16mm T5 / LED
Brindisi Sales Area	46.620,00	40.961,00	5.659,00	12,14%	5.658,88 €	16mm T5	16mm T5 / LED
Castelvetro di Modena	78.428,00	70.048,00	8.380,00	10,68%	8.379,89 €	16mm T5	16mm T5 / LED
Hypermarket Taranto	718.088,00	641.591,00	76.497,00	10,65%	76.496,89 €	16mm T5	16mm T5 / LED
Hypermarket Mongolfiera	495.645,00	445.006,00	50.639,00	10,22%	50.638,90 €	16mm T5	16mm T5 / LED
total	**1.982.098,00**	**1.670.536,00**	**311.562,00**	**15,72%**	**311.559,98 €**		

COOP Liguria S.C.

Country
Italy

Category
Retail & Supermarkets

Typology
Indoor

Year
2011

Total savings
125 MWh/a

Effective Savings
average **16 %**

Coop Liguria registered lighting improvements within 3 supermarkets. The main intervention was to substitute T8 fluorescent tubes with higher efficient T5 fluorescent tubes. Coop Liguria is also engaged in a campaign to promote the reduction of lighting (m'illumino di meno).

Project Name | Supermarket	Consumption before kWh/a	Consumption after kWh/a	Effective Energy Savings kWh/a	Effective Energy Savings in %	Savings in running costs €/a	Lamps before	Lamps after
Vado Ligure Sales Area	315.305	261.524	53.781	17,06%	53.780,83 €	26mm T8	16mm T5 / LED
Sestri Levante Sales Area	54.089	44.954	9.135	16,89%	9.134,83 €	26mm T8	16mm T5 / LED
Albenga Sales Area	418.011	355.889	62.122	14,86%	62.121,85 €	26mm T8	16mm T5 / LED
total	**787.405**	**662.367**	**125.038**	**15,88%**	**125.037,51 €**		

COOP Lombardia

Country
Italy

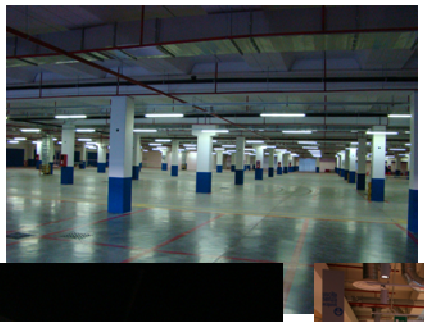
Category
Retail & Supermarkets

Typology
Indoor

Year
2011

Total savings
175 MWh/a

Effective Savings
average **51 %**




Type of Building: **Supermarket**
Effective energy savings in kWh per year: **174,649**
Effective energy savings in per year: **51 %**
Upgraded surface in m^2: **2 500**
Annual savings in running costs: **5 674 €**

Coop Lombardia registered the intervention within three supermarkets and especially the forerunner project in Desio. Here the project shows a good utilization of natural lighting (day lighting) allowing to dim the fluorescent lighting (T5) for the general lighting. The LED lighting technology has been used extensively in different areas such as signages and billboards, external lighting, car parks, and fresh food area. This concept has been replicated in other 150 supermarkets owned by COOP in Italy.

GREENLIGHT AWARD WINNER 2012

Decathlon Romania

Country	*Category*	*Typology*
Romania	**Retail & Supermarkets**	**Indoor**

Year	*Total savings*	*Effective Savings*
2011	**532 MWh/a**	average **70 %**

Decathlon Romania registered two projects.

Decathlon
Policolor Bukarest
Type of Building: Shop
Effective energy savings in kWh per year: 277,000
Effective energy savings in per year: 70 %
Upgraded surface in m2: 2,600
Annual savings in running costs: 24800 €

Decathlon 2 Brasov
Type of Building: Shop
Effective energy savings in kWh per year: 255,000
Effective energy savings in per year: 70 %
Upgraded surface in m2: 2,700
Annual savings in running costs: 22,890 €
Installation of a sustainable shopping area with a overall reduction of more than 70 % of electricity by using upgrading the fluorescent lamps with more efficient florescent luminaries with aluminized reflectors.

GREENLIGHT AWARD WINNER 2012

Decathlon Italia

Country
Italy

Category
Retail & Supermarkets

Typology
Indoor

Year
2011

Total savings
3 994 MWh/a

Effective Savings
average **45 %**

Decathlon Italy registered the intervention in 25 shops. The intervention consisted installing more efficient 49 Watts tubes in new shops and substituting old T8 tubes in existing shops with T5 neon tubes achieving a total of savings in 3.994.012 kWh per year in consumption and annual savings in running costs of a total of 639.042 €.

Saving achievements	Newly opened	Existing shop	total
Number of shops	9	16	25
Reduction of energy consumption in kWh	1.823.452	2.170.560	3.994.012
Savings of energy cost in €	291.752	347.290	639.042
Total investment	239.004	425.600	186.596
Reduction of carbon emission in tons	1.039	1.237	2.277

GREENLIGHT AWARD WINNER 2012

Ipercoop Sicilia S.p.A.

Country	Category	Typology
Italy	Retail & Supermarkets	Indoor
Year	**Total savings**	**Effective Savings**
2011	443 MWh/a	14 %

Ipercoop Sicilia upgraded the lighting in five supermarkets. The key changes were from T8 to T5 fluorescent tubes.

Project Name | Supermarket	Consumption before kWh/a	Consumption after kWh/a	Effective Energy Savings kWh/a	Effective Energy Savings in %
Forum Sales Area	772.954	642.146	130.808	16,92%
Milazzo Sales Area	482.955	401.224	81.731	16,92%
Gravina di Catania Sales Area	737.974	613.086	124.888	16,92%
Palermo Torre Sales Area	570.037	475.074	94.963	16,66%
Ibleo Sales Area	520.948	510.783	10.165	1,95%
total	**3.084.868**	**2.642.313**	**442.555**	**14,35%**

Novacoop S.C.

Country
Italy

Category
Retail & Supermarkets

Typology
Indoor

Year
2011

Total savings
650 MWh/a

Effective Savings
21 %

Novacoop registered lighting improvements within 9 supermarkets. The main intervention was to substitute T8 fluorescent tubes with higher efficient T5 fluorescent tubes.

Project Name | Supermarket	Consumption before kWh/a	Consumption after kWh/a	Effective Energy Savings kWh/a	Effective Energy Savings in %	Savings in running costs €/a
Borgomanero Sales Area	61.303	17.655	43.648	71,20%	43.647 €
Cuneo Sales Area	81.375	23.436	57.939	71,20%	57.938 €
Cirie' Car park	14.062	4.492	9.570	68,06%	9.569 €
Cuorgne' Sales Area	60.760	19.929	40.831	67,20%	40.830 €
Cirie' Sales Area	508.431	384.025	124.406	24,47%	124.406 €
Pinerolo	620.525	523.278	97.247	15,67%	97.247 €
Galliate	448.964	378.604	70.360	15,67%	70.360 €
Valenza Po	479.205	404.106	75.099	15,67%	75.099 €
Biella	837.446	706.205	131.241	15,67%	131.241 €
total	**3.112.071**	**2.461.730**	**650.341**	**20,90%**	**650.337 €**

Unicoop Firenze S.p.A.

Country
Italy

Category
Retail & Supermarkets

Typology
Indoor

Year
2011

Total savings
269 MWh/a

Effective Savings
13 %

Unicoop Firenze upgraded the lighting in 9 supermarkets. The key changes were from T8 to T5 fluorescent tubes.

Project Name | Supermarket	Consumption before kWh/a	Consumption after kWh/a	Effective Energy Savings kWh/a	Effective Energy Savings in %
Monsummano Terme Sales Area	120.583	81.783	38.800	32,18%
Napoli Sales Area	261.533	215.915	45.618	17,44%
Buggiano Sales Area	162.789	135.122	27.667	17,00%
Montemurlo Sales Area	203.338	181.091	22.247	10,94%
Campi Bisenzio Sales Area	117.406	104.750	12.656	10,78%
Pontedera Sales Area	291.223	260.153	31.070	10,67%
Pontassieve Sales Area	255.800	228.544	27.256	10,66%
Prato Alleanza Sales Area	521.790	466.316	55.474	10,63%
Empoli Repubblica Sales Area	72.296	64.623	7.673	10,61%
total	**2.006.758**	**1.738.297**	**268.461**	**13,38%**

Unicoop Tirreno S.p.A.

Country	Category	Typology
Italy	Retail & Supermarkets	Indoor

Year	Total savings	Effective Savings
2011	118 MWh/a	14 %

Unicoop Tirreno upgraded the lighting in 3 supermarkets. The key changes were from T8 to T5 fluorescent tubes.

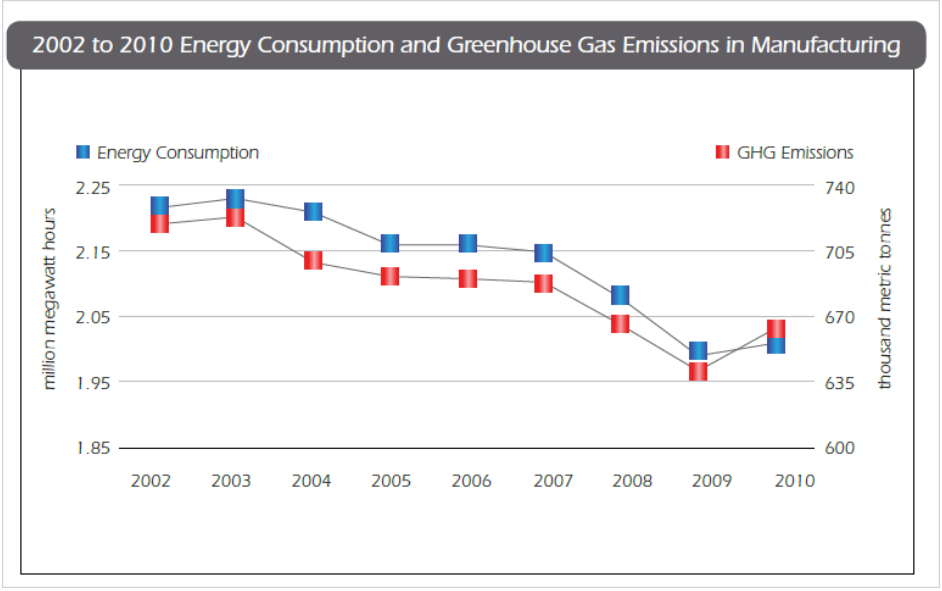
Project Name | Supermarket	Consumption before kWh/a	Consumption after kWh/a	Effective Energy Savings kWh/a	Effective Energy Savings in %
Civita Castellana (VT) Sales Area	135.790	94.269	41.521	30,58%
Guidonia Sales Area	331.754	296.205	35.549	10,72%
Roma EUR Sales Area	384.988	343.971	41.017	10,65%
total	**852.532**	**734.445**	**118.087**	**13,85%**

Production Sites

Colgate Palmolive Industries

Country	Category	Typology
France	Production Sites	Indoor
Year	**Total savings**	**Effective Savings**
2011	529 MWh/a	38 %

Colgate Palmolive upgraded the lighting in their production facility in Compiegne, France. A key feature are daylight sensors and presence detectors. With an optimization calculation of lighting and upgrading of lighting levels, working conditions and safety have been improved. On the other hand, visual comfort, thanks to the use of reflective aluminium, is well beyond European standards. The company is committed to reducing their energy consumption on a larger scale (see diagram below from the Colgate Sustainability Report 2011).



Kaneka Belgium

Country	Category	Typology
Belgium	Production Sites	Indoor
Year	**Total savings**	**Effective Savings**
2011	7 MWh/a	34 %

Founded in 1970, Kaneka Belgium was the first Japanese chemical production unit in Europe producing polymers as well as polypropylene and polyethylene foam located at Geel. The old installation of mercury luminaires with 400 W 80 lux was replaced by a modern installation with TL5 optics and dimming with a photocell allowing savings of more than 55% with more comfort, higher lighting level and less maintenance reaching a saving of 5.375 kg of carbon emissions each year.

Disclaimer
The examples in this brochure are self-reported by the GreenLight Partners. Their energy savings are assessed by comparison with either the pre-existing lighting (in the case of a renovation) or a conventional new installation (in the case of a new building). The energy savings are specific to each lighting installation, depending on the installed technologies, the operating hours, the occupancy pattern and other factors.

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